



## U.S. Coast Guard/American Waterways Operators **VESSEL SAFETY ALERT 01-98**

### **LOSS OF PROPULSION LEADING TO COLLISION WITH TOWED BARGES**

**Background:** The Coast Guard/AWO Vessel Safety Alert program was created to provide timely notification to mariners of "Lessons Learned" from marine casualties or incidents. This program along with the TIIR (Towing Industry Incident Report) have been established to help prevent towing industry accidents by applying Prevention Through People (PTP) principles which include educating mariners.

**Incident:** An oceangoing tug with two barges on a tandem stern tow suffered a loss of propulsion that led to a collision with two towed barges. When the engines slipped out of gear the operator turned the rudder hard to port to avoid being overtaken by the barges, however, one barge struck the port stern of the tug and the other barge struck the port side of the first barge amidships. As a result of the tug's propulsion loss, the bow rake of one of barges was holed. While damage was minimal, the loss of propulsion presented the potential for a serious accident.

**Findings:** The primary cause of this incident was loss of service air to the main engines. A rubber air line serving a non critical MSD (Marine Sanitation System) coming off the starboard air receiver was improperly installed and lay against an exhaust manifold which excessively dried the line and caused it to rupture. This problem was aggravated by the fact there was no isolation valve installed which would have allowed timely securing of the air loss through the failed air supply hose. Consequently, the pneumatic main engine controls were disabled and the tug lost propulsion.

**Recommendations:** Loss of main control systems can lead to a serious marine casualty. To minimize the potential of this developing from an air supply loss to pneumatic control systems the following is recommended.

- 1) Air lines should be banded separately and affixed to bulkheads or the overhead.
- 2) Regularly inspect service air lines for brittleness, chaffing, or cracking as part of a recurring preventative maintenance plan.
- 3) Install isolation valves for separate air line functions to prevent catastrophic service air loss.
- 4) Install dedicated air receivers for critical systems
- 5) Ensure proper material is used for air service lines in machinery spaces.

